

Name: _____

p1105: Factoring when $a = 1$ (v15)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5 . Focus on finding factor pairs of -24 . Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 - 8x + 12$

$$(x - 2)(x - 6)$$

2. Factor $x^2 - 11x + 30$

$$(x - 6)(x - 5)$$

3. Factor $x^2 + 3x - 10$

$$(x + 5)(x - 2)$$

4. Factor $x^2 - 3x - 40$

$$(x - 8)(x + 5)$$

5. Factor $x^2 - 10x + 9$

$$(x - 9)(x - 1)$$

6. Factor $x^2 + x - 6$

$$(x - 2)(x + 3)$$

7. Factor $x^2 - 12x + 32$

$$(x - 4)(x - 8)$$

8. Factor $x^2 - 81$

$$(x - 9)(x + 9)$$

9. Factor $x^2 - x - 72$

$$(x + 8)(x - 9)$$

10. Factor $x^2 - 10x + 16$

$$(x - 2)(x - 8)$$

11. Factor $x^2 - 4x - 45$

$$(x + 5)(x - 9)$$

12. Factor $x^2 + 5x - 14$

$$(x - 2)(x + 7)$$

13. Factor $x^2 - 10x + 25$

$$(x - 5)(x - 5)$$

14. Factor $x^2 - 16$

$$(x - 4)(x + 4)$$

15. Factor $x^2 - 3x + 2$

$$(x - 2)(x - 1)$$